

## REMARKS/ARGUMENTS

In the Office Action dated May 21, 2004 the Examiner: (1) rejected claims 74, 75, 76 and 79 under 35 U.S.C. § 102(b); (2) rejected claims 77, 78, 81 and 82 under 35 U.S.C. § 103(a); (3) allowed claims 2-8, 10-40, 42-73 and 85-92, and (4) indicated that claims 80, 83 and 84 are allowable. Applicants acknowledge with appreciation the allowance of claims 2-8, 10-40, 42-73 and 85-92, and the allowability of claims 80, 83 and 84.

### *Status of the Claims*

Claims 7, 8, 13, 19-23, 25-30, 32-34, 37-40, 45-78, 80 and 82-92 are in original form.

Claims 2-6, 10-12, 14-18, 24, 31, 35, 36, and 42-44 were previously amended.

Claims 79 and 81 are currently amended.

Claims 1, 9 and 41 were previously canceled.

Claim 82 is currently canceled.

### *Claim Rejections Under 35 USC § 102(b)*

Claims 74, 75, 76 and 79 stand rejected under 35 U.S.C. § 102(b) as being anticipated by *Millheim*, U.S. Patent No. 4,794,534 (hereinafter *Millheim*). Applicants respectfully submit that independent claim 74 is patentably distinguishable over *Millheim* at least because *Millheim* fails to teach or suggest transmitting a computer command to generate downlink instruction signals to control a directional drilling site wherein the computer command is transmitted from a location remote from the drilling site according to claim 74. Instead, referring to Column 4, lines 4-6, *Millheim* discloses a method for remotely monitoring (not controlling) the drilling activities of one or more wells. Drilling data is sent on a real time basis from a well site 10 to a database 26 at a remote monitoring facility 14 where engineers closely monitor the well and "can help make decisions." (Column 10, lines 37-43) If a malfunction occurs in the drilling plan, the engineer at the well site "can be in immediate communication visually (face to face) and graphically, as well as audially with the monitoring facility to help make corrections." (Column 10, lines 51-54) "Once the 'best' corrective action has been chosen, then this corrective action is communicated visually, audially,

and/or graphically to the well site.” (Column 11, lines 10-12) However, no computer commands are transmitted from the remote location to control the directional drilling site. Instead, *Millheim* makes very clear that “the decisions effecting the drilling operation of the well are made at the well site by the engineer.” (Column 10, lines 34-36) Therefore, all computer commands to control the directional drilling site are made locally, not remotely. *Millheim* also states that corrective actions “can be developed by the drilling engineer at the well site alone or in conference with other engineers at the monitoring facility.” (Column 4, lines 51-53)

Therefore, in summary, *Millheim* teaches a method of transmitting real-time drilling data to a remote monitoring facility so that engineers at the remote monitoring facility can communicate with the on-site drilling engineer. The on-site drilling engineer then implements corrective actions locally at the well site. Accordingly, *Millheim* fails to disclose each and every element of claim 74, which discloses controlling a directional drilling site by transmitting computer commands from a location remote from the drilling site. At least for this reason, Applicants submit that independent claim 74 is patentably distinguishable over *Millheim* and is therefore in condition for allowance. Additionally, Applicants note that pending claims 75 depends from allowable claim 74. Therefore, Applicants respectfully submit that claim 75 is likewise allowable over *Millheim*.

With respect to independent claim 76, Applicants respectfully submit that this claim is patentably distinguishable over *Millheim* at least for the reasons provided above with respect to claim 74, and also because *Millheim* fails to teach or suggest using bi-directional downlink and uplink signaling. In particular, Applicants respectfully submit that independent claim 76 is patentably distinguishable over *Millheim* at least because *Millheim* fails to teach or suggest a method for automatically drilling a well borehole at a drilling site wherein computer commands are transmitted either locally from the drilling site or from a location remote from the drilling site, according to claim 76. As explained above with respect to claim 74, *Millheim* discloses a remote monitoring facility that receives real-time drilling data and provides information to a drilling engineer at the drilling site, but *Millheim* fails to teach or suggest a method for automatically drilling a well borehole by transmitting computer commands from a location remote from the drilling site. Further, *Millheim* makes no mention of automatically drilling a well borehole at a drilling site using bi-directional downlink and uplink signaling according to claim 76. At least for these reasons, Applicants submit that independent claim 76 is patentably distinguishable over *Millheim* and is therefore in condition for allowance.

With respect to independent claim 79, Applicants respectfully submit that this claim is patentably distinguishable over *Millheim* at least because *Millheim* fails to teach or suggest sending downlink instruction signals without interrupting drilling and without interrupting the ability to simultaneously send uplink signals, to effect an operating change to any of a plurality of downhole tools in a downhole assembly. In fact, *Millheim* fails to teach or suggest any particular method of sending downlink instruction signals to a downhole assembly. Thus, *Millheim* fails to disclose each and every element of claim 79. Accordingly, independent claim 79 is patentably distinguishable over *Millheim* and is therefore in condition for allowance.

***Claim Rejections Under 35 USC § 103(a)***

Claims 77 and 78 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Millheim* in combination with Krueger, U.S. Patent No. 6,516,898 (hereinafter *Krueger*). Applicants respectfully submit that *Millheim* in combination with *Krueger* does not establish a *prima facie* case of obviousness as to claims 77 and 78.

In particular, assuming for the sake of argument that the combination of *Millheim* with *Krueger* is proper (without conceding such), a *prima facie* case of obviousness has not been established as such a combination does not teach or suggest all of the claim limitations. In particular, claims 77 and 78 each depend from and incorporate the limitations of independent claim 76. As discussed previously, *Millheim* does not teach or suggest each and every element of claim 76. More specifically, *Millheim* does not teach a method for automatically drilling a well borehole by transmitting computer commands from a location remote from the drilling site, and further, *Millheim* makes no mention of automatically drilling a well borehole at a drilling site using bi-directional downlink and uplink signaling according to claim 76. The Examiner does not cite *Krueger* for the purpose of showing such a method, and in any event, *Krueger* does not show such a method even if relied upon for such. Accordingly, given that *Millheim* does not make obvious each and every element of claims 77 and 78, and *Krueger* does not make up for the lack of teaching of *Millheim*, Applicants submit that claims 77 and 78 are not obvious in view of the prior art of record.

Claims 81 and 82 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Scherbatskoy, U.S. Patent No. 5,113,379 (hereinafter *Scherbatskoy*) in combination with *Krueger*. Claim 82 has been canceled. Applicants respectfully submit that the combination of *Scherbatskoy* and *Krueger* does not establish a *prima facie* case of obviousness as to claims 81. The Examiner

takes the position that claim 81 is obvious because *Scherbatskoy* teaches sending a downlink signal without interrupting fluid circulation to effect an operating change to any of a plurality of downhole tools, and *Krueger* teaches taking a sample using a drilling formation tester during drilling. In response, Applicants respectfully submit that claim 81 is patentable over the combination of *Scherbatskoy* and *Krueger* at least because neither of the cited references, nor the combination thereof, teaches or suggests sending downlink instruction signals without interrupting fluid circulation and without interrupting the ability to simultaneously send uplink signals according to claim 81. Although *Krueger* teaches a two-way telemetry unit 342 with downlink and uplink telemetry paths 329, 327, respectively, neither *Scherbatskoy* nor *Krueger* teach or suggest the ability to send downlink and uplink signals simultaneously.

#### ***Allowable Subject Matter***

Claims 80, 83 and 84 were objected to as being dependent upon a rejected base claim, but the Examiner stated that these claims would be allowable if rewritten in independent form to include all the limitations of the base claim and any intervening claims. In response, Applicants submit that 80, 83 and 84 are all dependent from allowable base claim 79.

**CONCLUSION**

Consideration of the foregoing amendments and remarks, reconsideration of the application, and withdrawal of the rejections and objections is respectfully requested by Applicants. No new matter is introduced by way of the amendment. It is believed that each ground of rejection raised in the Office Action dated May 21, 2004 has been fully addressed. If any fee is due as a result of the filing of this paper please appropriately charge such fee to Deposit Account Number 05-1515 of Conley Rose, P.C., Plano, Texas. If a petition for extension of time is necessary in order for this paper to be deemed timely filed, please consider this a petition therefore.

If a telephone conference would facilitate the resolution of any issue or expedite the prosecution of the application, the Examiner is invited to telephone the undersigned at the telephone number given below.

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